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(54) **Optical film**

(57) A high-quality optical compensator for use in liquid crystal display elements can be prepared from a film comprising an end unit modified liquid crystalline polymer which has a monofunctional structural unit and which exhibits an optically positive uniaxiality, and, as needed, a liquid crystalline polymer which has a loga-

rithmic viscosity at least 0.01 dl/g higher than that of the end unit modified liquid crystalline polymer and a glass transition point at least 5 °C higher than that of the end unit modified liquid crystalline polymer and which exhibits an optically positive uniaxiality, wherein a nematic hybrid orientation which is formed in the liquid crystal state is immobilized.

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# EUROPEAN SEARCH REPORT

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| DOCUMENTS CONSIDERED TO BE RELEVANT                                                                                                                                                                                     |                                                                                                                                                                                         |                                                                                                                                                                                                                                                                              |                                              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| Category                                                                                                                                                                                                                | Citation of document with indication, where appropriate, of relevant passages                                                                                                           | Relevant to claim                                                                                                                                                                                                                                                            | CLASSIFICATION OF THE APPLICATION (Int.Cl.6) |
| D,A                                                                                                                                                                                                                     | EP 0 628 847 A (NIPPON OIL CO LTD) 14 December 1994<br>* the whole document *                                                                                                           | 1,7,8                                                                                                                                                                                                                                                                        | G02F1/1335<br>C09K19/38<br>G02B5/30          |
| A                                                                                                                                                                                                                       | DATABASE WPI<br>Section Ch, Week 9711<br>Derwent Publications Ltd., London, GB;<br>Class A14, AN 97-115570<br>XP002068891<br>& JP 09 003 454 A (FUJI PHOTO FILM CO LTD)<br>* abstract * | 1,2                                                                                                                                                                                                                                                                          |                                              |
| A                                                                                                                                                                                                                       | WO 96 37804 A (NIPPON OIL CO LTD ;MAZAKI HITOSHI (JP); SATO YASUSHI (JP); TOYOOKA)<br>28 November 1996<br>* the whole document *                                                        | 1,7,8                                                                                                                                                                                                                                                                        |                                              |
| P,A                                                                                                                                                                                                                     | -& EP 0 783 128 A 9 July 1997<br>* the whole document *                                                                                                                                 | 1,7,8                                                                                                                                                                                                                                                                        |                                              |
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|                                                                                                                                                                                                                         |                                                                                                                                                                                         |                                                                                                                                                                                                                                                                              | TECHNICAL FIELDS SEARCHED (Int.Cl.6)         |
|                                                                                                                                                                                                                         |                                                                                                                                                                                         |                                                                                                                                                                                                                                                                              | G02F<br>G02B<br>C09K                         |
| The present search report has been drawn up for all claims                                                                                                                                                              |                                                                                                                                                                                         |                                                                                                                                                                                                                                                                              |                                              |
| Place of search<br><b>THE HAGUE</b>                                                                                                                                                                                     |                                                                                                                                                                                         | Date of completion of the search<br><b>22 June 1998</b>                                                                                                                                                                                                                      | Examiner<br><b>Puetz, C</b>                  |
| CATEGORY OF CITED DOCUMENTS                                                                                                                                                                                             |                                                                                                                                                                                         | T : theory or principle underlying the invention<br>E : earlier patent document, but published on, or after the filing date<br>D : document cited in the application<br>L : document cited for other reasons<br>& : member of the same patent family, corresponding document |                                              |
| X : particularly relevant if taken alone<br>Y : particularly relevant if combined with another document of the same category<br>A : technological background<br>O : non-written disclosure<br>P : intermediate document |                                                                                                                                                                                         |                                                                                                                                                                                                                                                                              |                                              |

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